

Serial No. 10/671,549

Docket No. K-0544

Amdt. dated February 8, 2005

Reply to Office Action of November 8, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A purification apparatus comprising:  
a mobile phase distillation part for distilling a mobile phase;  
a mobile phase liquefaction part for liquefying the distilled mobile phase; and  
a purification part disposed between the mobile phase distillation part and the mobile phase liquefaction part, ~~for mixing the mobile phase liquefied at the mobile liquefaction part with to-be-purified material, removing impurities from the mixture through a bonded phase, and sending the impurity-removed purified material to the mobile phase distillation part~~  
wherein the purification part comprises:  
a cellulose or silica thimble for mixing the mobile phase liquefied at the mobile phase liquefaction part with the to-be-purified material;  
a bonded phase for removing impurities from the mixture of the cellulose or silica thimble; and  
a soxhlet for sending the purified material, in which the impurities are removed by the bonded phase, to the mobile phase distillation part.

2. (Original) The purification apparatus of claim 1, wherein the mobile phase distillation part comprises:

a flask containing the mobile phase therein; and

a heater for generating heat so as to distill the mobile phase.

3. (Original) The purification apparatus of claim 2, wherein the mobile phase is an organic solvent.

4. (Original) The purification apparatus of claim 1, wherein the mobile phase liquefaction part is a reflux condenser.

5. (Canceled)

6. (Original) The purification apparatus of claim 5, wherein the bonded phase is at least one or two or more selected from the group consisting of silica gel, alumina, celite and activated carbon.

7. (Original) The purification apparatus of claim 5, wherein the bonded phase further comprises a predetermined thickness of a sand layer formed on upper and lower surfaces thereof.

8. (Original) The purification apparatus of claim 5, wherein the soxhlet sends the impurity-removed purified material to the mobile phase distillation part through a capillary tube.

9. (Original) The purification apparatus of claim 8, wherein an inlet of the capillary tube is filled with cotton such that only the purified material passes.

10. (Original) A purification apparatus comprising:  
a flask for containing an organic solvent therein;  
a heater for distilling the organic solvent;  
a condenser for liquefying the distilled organic solvent;  
a cellulose or silica thimble disposed at a lower portion of the condenser, for mixing the organic solvent liquefied at the mobile phase liquefaction part with to-be-purified organic material;

a bonded phase disposed at a lower portion of the cellulose or silica thimble, for removing impurities from the mixture of the cellulose or silica thimble; and

a soxhlet for sending the purified material, in which the impurities are removed by the bonded phase, to the flask.

11. (Original) The purification apparatus of claim 10, wherein the condenser is a reflux condenser.

12. (Original) The purification apparatus of claim 10, wherein the bonded phase is at least one or two or more selected from the group consisting of silica gel, alumina, celite and activated carbon.

13. (Original) The purification apparatus of claim 10, wherein the bonded phase further comprises a predetermined thickness of a sand layer formed on upper and lower surfaces thereof.

14. (Original) The purification apparatus of claim 10, wherein the soxhlet sends the impurity-removed purified material to the flask through a capillary tube.

15. (Original) The purification apparatus of claim 14, wherein an inlet of the capillary tube is filled with cotton such that only the purified material passes.

16. (Currently Amended) A purification method using a purification apparatus having a mobile phase distillation part; a mobile phase liquefaction part; and a purification

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part disposed between the mobile phase distillation part and the mobile phase liquefaction part, for removing impurities of to-be-purified material, the method comprising the steps of:

distilling a mobile-phase solvent;

liquefying the distilled solvent;

mixing the liquefied solvent with the to-be-purified material using a cellulose or silica thimble;

removing impurities from the mixture of the cellulose or silica thimble using ~~the~~ a bonded phase;

~~sending~~ using a soxhlet to send the purified material, in which the impurities are removed by the bonded phase, to the mobile phase distillation part; and

extracting the purified material from the mobile phase distillation part wherein the purification part comprises:

a cellulose or silica thimble for mixing the mobile phase liquefied at the mobile phase liquefaction part with the to-be-purified material;

a bonded phase for removing impurities from the mixture of the cellulose or silica thimble; and

a soxhlet for sending the purified material, in which the impurities are removed by the bonded phase, to the mobile phase distillation part.

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17. (Original) The purification method of claim 16, wherein the bonded phase is at least one or two or more selected from the group consisting of silica gel, alumina, celite and activated carbon.

18. (Original) The purification method of claim 16, wherein the purified material is moved to the mobile phase distillation part by a capillary phenomenon having a difference of a surface tension.

19. (Original) The purification method of claim 16, wherein the purified material is purified by a polarity difference of the mixture.